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| 10/620,109 | 07/15/2003 | Alan Ray Albrecht | 200310882-1 | 8617 |

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| EXAMINER | |
|---|---|
| SINKANTARAKORN, PAWARIS | |
| ART UNIT | PAPER NUMBER |
| 2616 | |

| SHORTENED STATUTORY PERIOD OF RESPONSE | MAIL DATE | DELIVERY MODE |
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| 3 MONTHS | 02/27/2007 | PAPER |

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

| Office Action Summary | Application No. | Applicant(s) | |
|---|---|---|---|
| | 10/620,109 | ALBRECHT, ALAN RAY | |
| | Examiner | Art Unit | |
| | Pao Sinkantarakorn | 2616 | |

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after t he mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1)☒ Responsive to communication(s) filed on *15 July 2003*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4)☒ Claim(s) *1-19* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-19* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

**Application Papers**

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *15 July 2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *7/15/2003*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

## DETAILED ACTION

### *Claim Objections*

1. Claim 17 is objected to because the term "where" should be changed to --- wherein ---.

Appropriate correction is required.

### *Claim Rejections - 35 USC § 112*

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 7 and 8 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

For claims 7 and 8 line 2, the recitation of "the user tag" has no antecedent basis.

### *Claim Rejections - 35 USC § 102*

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1, 3, 5- 7, 9, 11, 12, 14, 16, 17, and 19 are rejected under 35 U.S.C. 102(e) as being anticipated by Srikanth et al. (US 6,430,621).

Srikanth et al. disclose, **regarding claim 1**, a method of processing a packet sent to a provider network, the method comprising:

receiving the packet via a user port of an edge switch of the network (see column 4 lines 44-45);

determining forwarding and routing by the edge switch based on a user VLAN identifier (VID) (see column 4 lines 44-47 and 51-53); and

inserting a provider VLAN tag, including a provider VID, into the packet prior to transmission of the packet via a provider port of the edge switch (see Figure 4 box 420);

**regarding claim 3**, wherein the packet received includes a user VLAN tag, and wherein the user VID is derived from the user VLAN tag (see column 3 lines 62-63 and column 4 lines 2-5);

**regarding claim 5**, wherein the provider VID comprises a VID of a destination VLAN (see column 4 lines 2-5 and lines 10-11);

**regarding claim 6**, wherein the provider VID comprises a port VID associated with the input port (see column 44-47);

**regarding claim 7**, wherein the edge switch determines a class of service for the packet based on the user tag (see column 4 lines 3-4);

**regarding claim 9**, further comprising:

receiving the packet by a provider port of a second edge switch of the network (see column 5 line 4);

and stripping the provider VLAN tag from the packet (see column 5 lines 5-7).

Srikanth et al. also disclose, **regarding claim 11**, a switch apparatus for processing a packet sent to a provider network, the apparatus comprising:

a user port for receiving the packet (see column 4 lines 44-45); forwarding logic for determining forwarding and routing based on a user VLAN identifier (VID) (see column 4 lines 44-47 and 51-53); and

a provider port that inserts a provider VLAN tag, including a provider VID, into the packet prior to transmission of the packet (see Figure 4 box 420).

Furthermore, Srikanth et al. disclose, **regarding claim 12**, a system for processing packets sent to a provider network, the system comprising:

a first switch configured to receive a packet via a user port (see column 4 lines 44-45), to determine routing and forwarding for the packet based on a user VID (see column 4 lines 44-47 and 51-53), and to insert a provider VLAN tag into the packet at a provider port prior to transmission of the packet (see Figure 4 box 420); and

a second switch configured to receive the packet via a provider port (see column 5 lines 4), to strip the provider VLAN tag from the packet at the provider port, and to determine routing and forwarding for the packet based on the user VID (see column 5 lines 5-7);

**regarding claim 14**, further comprising utilization of a class of service (COS) for routing and forwarding of the packet that is based on the user VID (see column 4 lines 3-4).

In addition, Srikanth et al. disclose, **regarding claim 16**, a method of routing and forwarding a packet (see column 4 lines 18-20) using double Q tagging (see column 3

lines 45-48) to create a tunnel between a user port of a first switch and a user port of a second switch (see column 4 lines 22-24), wherein a user-expected service level is provided in relation to traffic flowing through the tunnel (see column 4 line 3);

**regarding claim 17**, where the user-expected service level comprises a quality of service level for the traffic (see column 4 lines 3-4).

Finally, Srikanth et al. disclose, **regarding claim 19**, an apparatus for processing a packet sent to a provider network, the apparatus comprising:

means for receiving the packet via a user port of an edge switch of the network (see column 4 lines 44-45);

means for determining forwarding and routing by the edge switch based on a user VLAN identifier (VID) (see column 4 lines 44-47 and 51-53); and

means for inserting a provider VLAN tag, including a provider VID, into the packet prior to transmission of the packet via a provider port of the edge switch (see Figure 4 box 420).

***Claim Rejections - 35 USC § 103***

4. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to

consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

5. The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 2, 8, 10, 13, 15, and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Srikanth et al. in view of Dobbins et al. (US 5,825,772).

**Regarding claim 2, 8, 10, 13, 15, and 18**, Srikanth disclose all the subject matter of the claimed invention described in paragraph 3 of this office action except the method of forwarding and routing the packet by a middle switch based on the provider VLAN tag; wherein the edge switch determines a security action for the packet based on the user tag; wherein the packet is routed to more than one middle switch before arriving at the second edge switch; the system, comprising at least one middle switch communicatively coupled between the first and second switches and deteremining a security action for the packet based on the user tag.

The invention of Dobbins et al. from the same or similar fields of endeavor teach a method:

**regarding claim 2 and 10**, for forwarding and routing the packet by more than one middle switch (see Figure 8 boxes 51 and 52) before arriving at the second edge switch based on the user tag (see column 17 lines 3-7);

**regarding claim 8**, wherein the edge switch determines a security action for the packet based on the user tag (see column 17 lines 29-31 and 35-36);

The invention of Dobbins et al. also teach a system, comprising:

**regarding claim 13**, at least one middle switch communicatively coupled between the first and second switches (see Figure 8 boxes 51 and 52); and

**regarding claim 15**, determining a security action for the packet based on the user tag (see column 17 lines 29-31 and 35-36);

**regarding claim 18**, a method, wherein the user-expected service level comprises a security action for the traffic (see column 17 lines 29-31 and 35-36).

Thus, it would have been obvious to the person of ordinary skill in the art to implement the method and system for forwarding and routing the packet by more than one switch, wherein the edge switch determines a security action for the packet based on the user tag of Dobbins et al. into the method and system for processing a packet of Srikanth et al.

The method and system for forwarding and routing the packet by more than one switch, wherein the edge switch determines a security action for the packet based on the user tag can be implemented/modified by implementing one or more intermediate

switches between the edge switches and implement a process where the edge switch determines whether the source and destination are on the same port. If they are on the same port, then the packet is dropped. If they are not on the same port, then the connection is established.

The motivation for implementing the method and system for forwarding and routing the packet by more than one switch, is that the intermediate switch can act as a repeater, which boosts the signal; therefore, the error rate is reduced. The motivation for implementing the method and system, wherein the edge switch determines a security action for the packet based on the user tag is that it enhances the security level of the network because the connection will not established unless the source and destination addresses are not on the same port.

***Claim Rejections - 35 USC § 103***

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Srikanth et al. in view of Kadambi et al. (US 6,707,818).

**Regarding claim 4**, Srikanth et al. disclose all the subject matter of the claimed invention described in paragraph 3 of this office action except the method, wherein the packet received does not include a user VLAN tag, and wherein the user VID is assigned to be a port VID associated with the user port.

The invention of Kadambi et al. from the same or similar fields of endeavor teach a method:

wherein the packet received does not include a user VLAN tag (see column 19 lines 61-65);

wherein the user VID is assigned to be a port VID associated with the user port (see column 20 lines 3-4).

Thus, it would have been obvious to the person of ordinary skill in the art to implement the method, wherein the packet received does not include a user VLAN tag, and wherein the user VID is assigned to be a port VID associated with the user port.

The method, wherein the packet received does not include a user VLAN tag, and wherein the user VID is assigned to be a port VID associated with the user port can be implemented/modified by implementing a method for counting the number of bits in the frame, determining whether a user VLAN tag is included, and assigning the user VID a port number which the MAC address is learned.

The motivation for implementing the method, wherein the packet received does not include a user VLAN tag, and wherein the user VID is assigned to be a port VID associated with the user port is that it allows the system to verify which user port is in use when the received packet does not include any user VLAN tag.

***Conclusion***

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Athreya et al. (US 7,088,714) and Crinion et al. (US 6,181,699)

are cited to show systems and methods that are considered pertinent to the claimed invention.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Pawaris Sinkantarakorn whose telephone number is 571-270-1424. The examiner can normally be reached on Monday-Thursday 8:30am-4:00pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kwang B. Yao can be reached on 571-272-3182. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

KWANG BIN YAO
PRIMARY EXAMINER

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